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# Census of Construction Industries

CC87-I-3

## INDUSTRY SERIES

## Operative Builders

Industry 1531



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# ACKNOWLEDGMENTS

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

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If you have any questions concerning the statistics in this report, call (301) 763-7546.

# 1987

# Census of Construction Industries

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Industry 1531

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Issued March 1990



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## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan



areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## **HISTORICAL INFORMATION**

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## **CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION**

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property



into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.



If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan



area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

#### Estimation procedures for 1987 and 1982 data—

Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c} / p_i$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics**—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

## Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.



## **CENSUS REPORT FORMS**

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## **DATA PROCESSING**

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## **GEOGRAPHIC CLASSIFICATION**

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## **DUPLICATION IN VALUE OF CONSTRUCTION WORK**

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## **SPECIAL TABULATIONS**

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.



To discuss a special tabulation before submitting specifications, call 301-763-7546.

## COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment . . . . .	3					
End of year—total . . . . .	1, 3	1	5	6		
End of year—buildings, machinery and equipment . . . . .	3					
Depreciation charges during year—buildings, machinery and equipment . . . . .	3					
Capital expenditures:						
Total capital expenditures . . . . .	1, 3	1	5	6		
New buildings—machinery and equipment . . . . .	3					
Used buildings—machinery and equipment . . . . .	3					
Communication services, costs for . . . . .	2					
Employees:						
All employees—average number . . . . .	1, 2	1	5	6		8
Construction workers—average number . . . . .	1, 2, 9	1, 9				
Other employees—average number . . . . .	2					
Employer costs for fringe benefits—legally required and voluntary expenditures . . . . .	2					
Establishments—number in business during year . . . . .	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total . . . . .	1, 2, 9	1, 9	5	6		
Quarterly . . . . .	2, 9	9				
Inventories . . . . .	4					
Materials, components, supplies, and fuels—costs for . . . . .	1, 2	1	5	6		
Payroll:						
First quarter, all employees . . . . .	2					
Annual:						
All employees . . . . .	1, 2	1	5	6		8
Construction workers . . . . .	1, 2	1				
Other employees . . . . .	2					
Power, fuels, and lubricants—costs for . . . . .	2					
Proprietors and working partners . . . . .	2					
Ratios, State . . . . .	13	13				
Value and receipts:						
Dollar value of business done, total . . . . .	2		5	6	11	
Value of construction work, total . . . . .	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others . . . . .	2					
Other business receipts and land receipts <sup>2</sup> . . . . .	2					
Net value of construction work . . . . .	1, 2	1	5	6		8
Value added . . . . .	1, 2	1	5	6		8
Rental costs:						
Total . . . . .	1, 2	1	5	6		
For machinery and equipment . . . . .	2					
For buildings . . . . .	2					
Repairs to buildings and other structures . . . . .	2					
Repairs to machinery and equipment . . . . .	2					
Selected industry ratios . . . . .	12					
Subcontract work to others, costs for . . . . .	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.



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## Operative Builders

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**Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.**

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# SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in the construction (including renovation) of single-family houses and other buildings for sale on their own account rather than as contractors. This industry includes speculative builders and condominium developers. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$57.5 billion in total dollar value of business. Of this amount, \$49.0 billion were for the value of construction work. These establishments paid out \$12.8 billion for materials, components, and supplies and \$22.1 billion for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$379 million. Value added for 1987 was \$15.2 billion.

There were 20,766 establishments with total employment averaging 168,940 during the year. Total payroll for 1987 was \$4.4 billion. Total hours worked by construction workers during the year were 136 million hours.

Larger establishments with 20 employees or more, while representing only 7 percent of the total number of employer establishments in this industry accounted for 54 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.



Figure 1. **Value of Construction Work by Type of Construction**  
(Percent)

1987  
1982

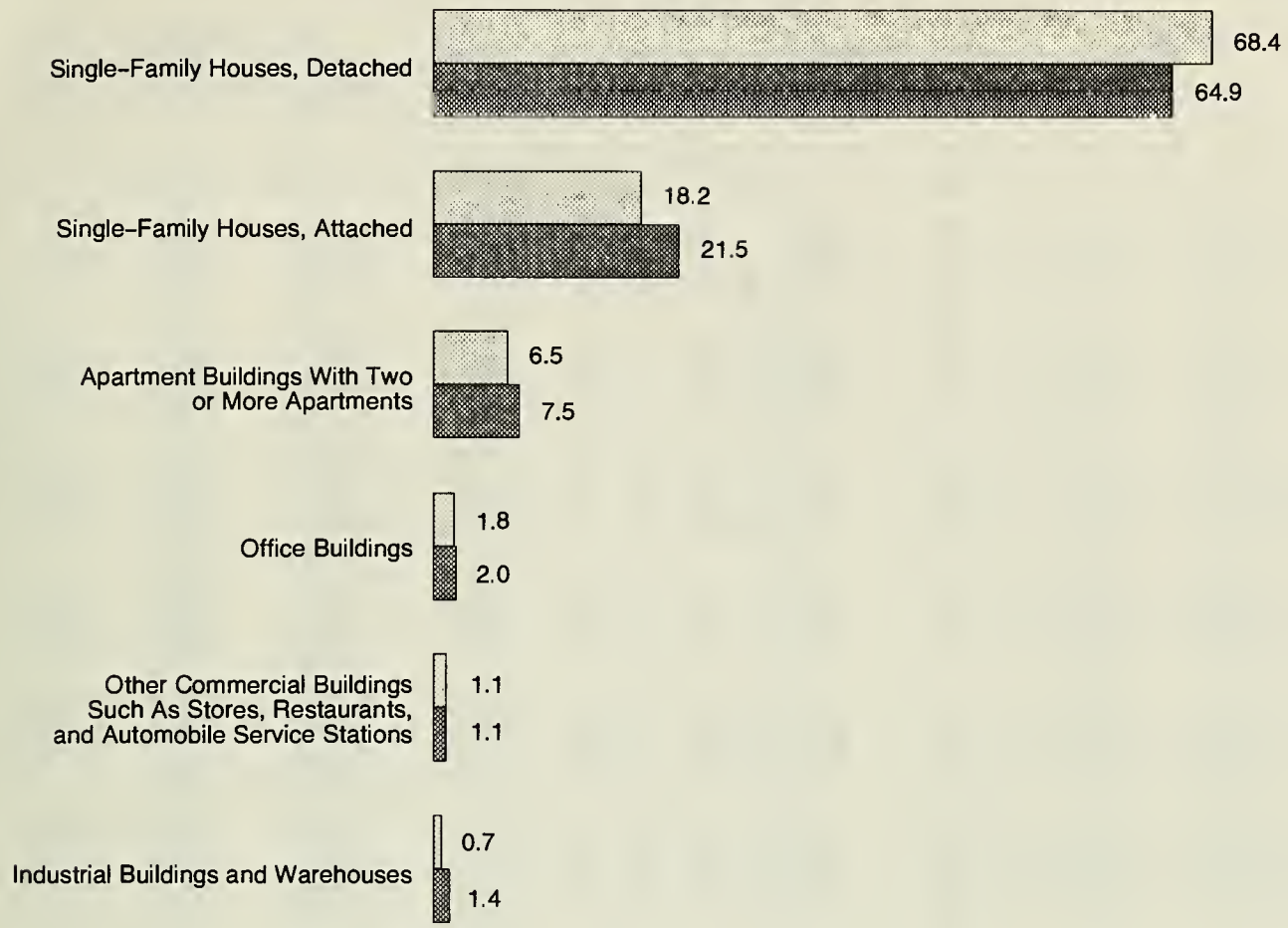
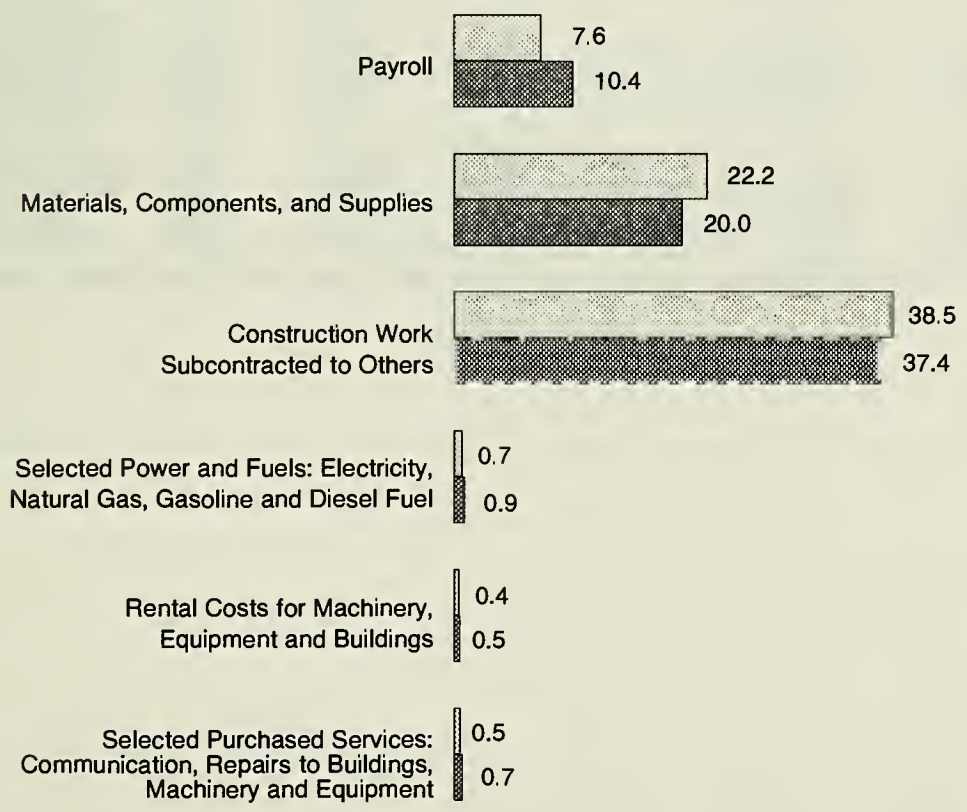


Figure 2. **Selected Costs Per Dollar Value of Business Done**  
(Percent)

1987  
1982



**Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States .....	20 766	168 940	79 502	4 385 006	1 478 312	135 927	48 959 809	26 837 792
Alabama .....	327	(D)	(D)	38 941	(D)	1 521	359 331	240 892
Alaska .....	*22	*29	(S)	714	(S)	(S)	*7 552	*5 639
Arizona .....	355	6 115	2 510	160 658	48 828	3 691	1 900 939	825 168
Arkansas .....	136	(D)	361	(D)	5 561	(D)	99 616	59 139
California .....	2 051	23 367	10 499	715 115	225 458	17 066	9 709 500	4 642 187
Colorado .....	410	3 394	1 203	79 334	20 784	2 090	866 181	551 312
Connecticut .....	635	4 165	2 241	126 084	47 378	3 936	897 440	561 724
Delaware .....	102	748	448	16 365	6 798	719	143 834	69 895
District of Columbia .....	33	998	590	27 551	11 914	1 035	191 696	93 823
Florida .....	1 966	18 875	7 225	451 690	123 186	12 853	5 120 878	2 767 577
Georgia .....	1 056	5 754	2 760	141 359	49 368	4 381	(D)	945 191
Hawaii .....	*11	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Idaho .....	30	*132	*78	2 469	655	(S)	23 941	14 167
Illinois .....	544	4 552	1 877	(D)	37 890	3 105	1 702 600	822 179
Indiana .....	338	2 320	1 305	49 194	21 824	(D)	585 018	366 003
Iowa .....	76	519	327	8 349	4 320	563	(D)	50 574
Kansas .....	198	(D)	(D)	(D)	(D)	623	(D)	111 755
Kentucky .....	274	1 578	750	34 143	10 690	1 250	353 058	193 715
Louisiana .....	146	615	254	10 581	2 158	354	115 850	62 434
Maine .....	138	765	419	(D)	(D)	693	145 632	87 450
Maryland .....	614	9 480	4 604	267 754	86 443	8 434	2 927 423	1 629 249
Massachusetts .....	956	5 535	3 171	149 206	69 882	6 016	1 275 204	746 256
Michigan .....	321	2 244	802	62 537	15 021	1 591	732 842	354 246
Minnesota .....	270	2 025	1 001	54 988	19 374	1 687	711 990	401 937
Mississippi .....	151	789	389	14 682	5 515	818	174 143	114 893
Missouri .....	487	3 558	2 231	88 587	41 310	3 443	790 402	(D)
Montana .....	20	111	60	2 369	1 025	163	27 657	12 300
Nebraska .....	83	(D)	(D)	(D)	(D)	120	(D)	50 975
Nevada .....	95	1 302	600	34 256	12 319	976	351 401	177 264
New Hampshire .....	372	2 843	1 683	64 501	28 950	2 965	540 503	338 382
New Jersey .....	949	8 311	3 692	255 638	78 981	6 139	2 570 031	1 654 465
New Mexico .....	145	925	514	15 043	6 429	833	152 276	93 809
New York .....	1 180	7 506	3 847	207 079	77 299	6 788	2 140 888	1 267 936
North Carolina .....	933	5 786	3 039	(D)	48 210	4 934	1 342 046	839 138
North Dakota .....	53	(D)	(D)	(D)	2 320	(D)	42 617	20 601
Ohio .....	626	4 531	2 168	112 444	41 219	4 210	1 368 380	724 109
Oklahoma .....	124	*645	*403	10 811	*4 568	*574	108 305	63 301
Oregon .....	156	397	143	9 396	(D)	234	126 024	69 836
Pennsylvania .....	617	5 841	3 338	130 779	61 913	6 143	(D)	(D)
Rhode Island .....	166	860	470	19 085	9 644	(D)	153 474	83 775
South Carolina .....	249	1 924	854	(D)	11 481	1 128	328 818	153 345
South Dakota .....	35	210	*117	3 112	1 102	16	21 888	12 112
Tennessee .....	454	3 017	1 564	66 366	24 238	2 770	606 496	367 634
Texas .....	971	8 519	2 898	234 970	55 591	5 086	3 020 431	1 767 607
Utah .....	115	(D)	(D)	11 722	(D)	443	(D)	(D)
Vermont .....	81	336	(D)	8 643	3 885	313	(D)	62 151
Virginia .....	1 042	10 224	5 110	272 911	90 441	8 878	2 776 228	1 609 709
Washington .....	460	2 476	1 268	52 536	20 080	2 185	600 398	317 183
West Virginia .....	63	305	147	4 631	1 964	299	38 457	32 538
Wisconsin .....	96	684	459	12 255	7 104	638	(D)	106 405
Wyoming .....	*13	(S)	(S)	(S)	(S)	(S)	(S)	(S)

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts¹	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
15 173 454	13 152 260	22 122 017	221 562	529 751	4 683 534	107 635	15 607 430	5 492 462	1	1	3	U.S.
(D)	155 133	118 439	1 269	(D)	(D)	1 445	126 446	29 989	(D)	13	(D)	AL
1 712	(S)	*1 912	(S)	(S)	(S)	458	73 341	12 488	63	65	(S)	AK
565 485	328 069	1 075 770	12 632	24 848	194 387	3 347	638 553	249 110	3	4	8	AZ
27 320	35 087	40 477	714	987	(D)	514	52 587	24 140	(D)	13	31	AR
3 345 739	1 729 872	5 067 312	42 495	89 063	734 898	14 504	2 586 798	1 077 662	2	2	9	CA
322 709	(D)	314 868	4 481	(D)	86 455	3 391	789 050	270 597	4	4	(D)	CO
273 286	319 949	335 715	4 439	12 018	93 858	1 440	124 256	39 033	6	6	15	CT
26 149	49 419	73 939	413	3 393	14 418	385	39 080	13 332	14	12	7	DE
56 315	41 560	97 872	2 199	(D)	6 897	480	50 716	12 079	8	10	(D)	DC
1 363 618	1 548 070	2 353 301	22 448	63 953	464 633	14 106	2 004 320	736 875	2	3	6	FL
408 852	581 902	(D)	7 092	(D)	(D)	3 336	376 455	111 915	4	5	(D)	GA
8 556	1 067	13 097	(D)	(S)	2 014	(S)	(S)	(D)	(D)	(D)	(S)	HI
*5 171	9 139	*9 774	*110	(D)	*3 000	219	17 009	5 989	50	39	(D)	ID
449 830	(D)	880 421	4 472	27 531	112 983	2 086	293 399	(D)	4	4	10	IL
157 470	215 484	219 014	1 065	5 292	50 970	1 246	131 638	32 954	8	14	17	IN
19 912	31 666	(D)	300	*1 130	(D)	456	51 483	19 359	13	17	66	IA
48 985	70 291	(D)	439	*3 153	*27 338	868	104 176	21 650	(D)	18	43	KS
80 367	123 244	159 343	1 238	9 872	63 472	776	100 006	36 977	10	10	10	KY
22 535	40 997	53 415	380	838	11 673	1 692	156 685	51 806	11	17	31	LA
(D)	41 120	58 182	641	3 115	27 830	287	22 192	5 946	16	19	39	ME
1 193 160	(D)	1 298 173	17 589	18 646	453 142	3 479	702 205	244 620	2	2	9	MD
369 665	410 626	528 948	7 119	15 547	182 545	1 327	131 543	47 389	5	6	13	MA
194 030	(D)	378 595	2 376	6 311	45 649	785	95 527	32 072	7	10	24	MI
216 724	194 434	310 053	2 189	8 395	72 143	1 923	254 390	74 049	6	8	16	MN
57 413	61 375	59 249	788	1 386	21 696	426	35 470	11 560	15	20	34	MS
212 954	295 743	(D)	2 157	4 699	86 096	1 910	207 486	71 314	5	(D)	20	MO
5 340	7 192	15 356	*85	(S)	*3 642	210	16 164	9 225	31	32	(S)	MT
(D)	28 846	(D)	*139	*874	20 322	489	61 254	13 095	(D)	19	44	NE
111 965	77 639	174 137	2 515	5 933	52 943	529	100 940	25 131	4	6	7	NV
184 272	160 960	202 120	3 131	7 746	67 388	424	46 344	11 646	7	9	8	NH
1 022 611	(D)	915 566	13 195	24 027	157 056	2 729	405 729	141 690	3	5	13	NJ
42 561	51 568	58 466	761	1 316	8 167	1 106	88 020	34 625	15	14	37	NM
684 003	620 724	872 951	9 194	23 464	174 807	3 582	412 211	125 547	5	5	18	NY
(D)	480 766	502 907	4 824	(D)	(D)	2 904	325 634	68 685	5	6	(D)	NC
14 490	10 990	*22 015	(D)	(D)	*7 997	207	21 157	12 152	(D)	35	(D)	ND
375 844	(D)	644 271	4 155	8 522	124 308	2 091	294 077	81 788	5	6	12	OH
*23 825	43 677	45 004	709	343	12 794	1 551	184 604	55 762	42	22	31	OK
38 836	33 911	56 188	*397	*1 713	25 129	909	106 293	54 926	15	19	44	OR
368 615	365 378	623 426	4 595	23 111	139 186	2 820	251 332	89 176	4	(D)	7	PA
34 451	49 896	69 699	404	1 397	6 503	495	28 158	*6 777	16	21	40	RI
53 427	112 042	175 473	1 659	1 661	27 152	1 318	111 523	44 818	8	11	27	SC
3 168	9 718	9 775	(S)	(D)	9 537	(S)	(S)	(D)	28	25	(D)	SD
139 481	237 716	238 862	3 006	10 448	79 254	1 954	159 723	55 619	8	8	29	TN
936 402	878 605	1 252 823	15 275	30 646	278 733	14 649	2 678 070	906 951	3	3	4	TX
23 197	65 325	62 094	983	*2 418	(D)	819	77 620	25 837	(D)	(D)	47	UT
(D)	22 817	(D)	333	(S)	*4 574	207	18 617	6 951	20	28	(S)	VT
851 474	(D)	1 166 518	12 688	28 533	252 711	3 806	552 744	158 010	3	3	9	VA
159 547	164 664	283 215	3 379	4 117	61 770	2 353	309 814	144 659	6	7	18	WA
18 738	14 142	5 919	275	1 249	*5 323	372	20 473	8 248	28	31	29	WV
55 887	55 580	(D)	429	1 285	13 295	542	61 989	23 416	19	26	16	WI
(S)	(S)	(S)	(S)	(S)	(S)	305	47 171	17 999	(S)	(S)	(S)	WY

**Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	20 766	14 053	23 477	(S)	1	1	2	(S)
Proprietors and working partners .....	3 447	2 481	10 397	(S)	5	4	3	(S)
All employees** .....	168 940	107 635	173 819	(S)	1	1	2	(S)
Construction workers:								
March .....	76 105	50 316	95 642	(S)	1	1	1	(S)
May .....	81 622	52 952	112 707	(S)	1	1	1	(S)
August .....	84 477	53 911	119 205	(S)	1	1	1	(S)
November .....	75 806	51 237	110 876	(S)	1	1	1	(S)
Average .....	79 502	53 212	109 702	(S)	1	1	1	(S)
Other employees:								
March .....	87 754	51 721	59 416	(S)	1	1	4	(S)
May .....	89 131	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
August .....	91 531	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
November .....	89 334	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Average .....	89 437	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	31 584	19 913	(NA)	(NA)	1	2	(NA)	(NA)
April to June .....	34 821	21 204	(NA)	(NA)	2	1	(NA)	(NA)
July to September .....	36 638	21 778	(NA)	(NA)	1	1	(NA)	(NA)
October to December .....	32 882	20 703	(NA)	(NA)	1	1	(NA)	(NA)
Total hours worked .....	135 927	83 600	(NA)	(NA)	1	1	(NA)	(NA)
Payroll, all employees .....	4 385 006	1 873 775	2 026 118	(S)	1	1	2	(S)
Payroll, construction workers .....	1 478 312	709 719	1 053 389	(S)	1	1	1	(S)
Payroll, other employees .....	2 906 693	1 164 056	972 729	(S)	1	1	2	(S)
First quarter payroll, all employees .....	1 065 553	437 994	413 934	(NA)	1	1	2	(NA)
Employer costs for fringe benefits, all employees .....	760 135	332 603	321 075	(NA)	1	1	2	(NA)
Legally required expenditures .....	540 504	238 386	206 937	(NA)	1	1	2	(NA)
Voluntary expenditures .....	219 630	94 217	114 138	(NA)	1	1	2	(NA)
Dollar value of business done .....	57 474 037	18 084 627	22 917 960	(S)	1	1	1	(S)
Value of construction work <sup>1</sup> .....	48 959 809	15 607 430	19 812 272	(S)	1	1	1	(S)
Value of construction work subcontracted in from others .....	559 465	90 971	130 570	(S)	9	6	6	(S)
Land receipts <sup>2</sup> .....	7 026 285	2 049 688	2 632 242	(S)	1	1	1	(S)
Other business receipts .....	1 487 943	427 508	473 446	(S)	2	1	3	(S)
Net value of construction work† .....	26 837 792	8 841 057	10 627 381	(S)	1	1	2	(S)
Value added†† .....	15 173 454	5 492 462	5 229 031	(S)	1	1	3	(S)
Selected costs .....	35 274 278	10 542 476	15 056 687	(S)	1	1	1	(S)
Materials, components, and supplies <sup>3</sup> .....	12 773 237	3 613 878	5 639 757	(S)	1	1	1	(S)
Construction work subcontracted to others .....	22 122 017	6 766 373	9 184 892	(S)	1	1	2	(S)
Selected power, fuels, and lubricants .....	379 023	162 224	232 038	(NA)	1	1	2	(NA)
Electricity .....	143 007	70 476	65 487	(NA)	1	1	3	(NA)
Natural gas .....	30 464	15 177	23 100	(NA)	2	4	3	(NA)
Gasoline and diesel fuel .....	187 447	67 162	98 623	(NA)	1	1	2	(NA)
On highway use .....	168 907	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Off highway use .....	18 539	(NA)	(NA)	(NA)	4	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	18 104	9 407	44 834	(NA)	2	3	3	(NA)
Rental cost for machinery, equipment, and buildings .....	221 562	95 850	64 054	(NA)	2	1	3	(NA)
For machinery and equipment .....	82 015	34 702	37 615	(S)	3	2	3	(S)
For buildings .....	139 546	61 148	26 439	(NA)	2	1	4	(NA)
Selected purchased services .....	296 689	126 221	161 959	(NA)	1	1	2	(NA)
Communication services .....	141 960	58 195	68 985	(NA)	1	1	2	(NA)
Repairs to buildings and other structures .....	50 602	27 337	23 079	(NA)	3	2	5	(NA)
Repairs to machinery and equipment .....	104 127	40 689	69 896	(NA)	2	2	3	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	48 959 809	15 607 430	19 812 272	(S)	1	1	1	(S)
Government owned .....	434 551	205 309	114 825	(S)	10	31	8	(S)
Federal .....	64 874	(NA)	(NA)	(NA)	12	(NA)	(NA)	(NA)
State and local .....	369 677	(NA)	(NA)	(NA)	12	(NA)	(NA)	(NA)
Privately owned .....	48 525 258	15 402 121	19 697 448	(S)	1	1	1	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.



**Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
<b>BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT</b>				
Beginning-of-year gross book value of depreciable assets .....	4 492 230	3 322 475	2	1
Capital expenditures, other than land .....	529 751	252 825	3	1
New .....	462 786	221 250	3	1
Used .....	66 964	31 575	7	5
Retirements and disposition of depreciable assets .....	338 447	370 596	5	3
End-of-year gross book value of depreciable assets .....	4 683 534	3 204 704	2	1
Depreciation charges during year .....	504 542	280 161	2	1
<b>Buildings and other Structures, Additions, and Related Facilities</b>				
Beginning-of-year gross book value of depreciable assets .....	2 379 987	1 566 251	3	2
Capital expenditures, other than land .....	285 986	153 362	4	2
New buildings and other structures .....	248 006	140 718	4	1
Used buildings and other structures .....	37 979	12 644	10	11
Retirements and disposition of depreciable assets .....	225 923	275 395	8	4
End-of-year gross book value of depreciable assets .....	2 440 049	1 444 218	3	1
Depreciation charges during year .....	210 186	127 949	3	2
<b>Machinery and Equipment</b>				
Beginning-of-year gross book value of depreciable assets .....	2 112 243	1 756 224	3	2
Capital expenditures, other than land .....	243 765	99 463	3	2
New machinery and equipment, including automobiles and trucks .....	214 780	80 531	3	2
New automobiles and trucks, intended primarily for highway use .....	89 784	31 856	4	4
Used machinery and equipment, including automobiles and trucks .....	28 985	18 931	10	4
Retirements and disposition of depreciable assets .....	112 523	95 201	2	3
End-of-year gross book value of depreciable assets .....	2 243 485	1 760 486	2	2
Depreciation charges during year .....	294 355	152 211	2	1

**Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number .....	20 766	1
Value of construction work .....	48 959 809	1
Establishments with inventories:		
Number .....	15 169	2
Value of construction work .....	37 364 289	1
Inventories <sup>1</sup> :		
End of 1987, materials and supplies .....	777 414	7
End of 1986, materials and supplies .....	628 913	6
Establishments with no inventories:		
Number .....	3 470	5
Value of construction work .....	3 916 825	4
Establishments not reporting:		
Number .....	2 127	5
Value of construction work .....	7 678 695	2

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—									1,000 employees or more
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees		
<b>1987</b>											
Number of establishments .....	20 766	13 333	3 988	1 957	1 042	248	150	36	10	1	
All employees** .....	168 940	27 347	25 116	25 828	30 477	17 002	22 229	11 983	8 955	(D)	
Payroll, all employees .....	4 385 006	669 195	593 867	658 786	847 648	497 868	629 946	268 985	218 709	(D)	
Construction worker hours (thousands) .....	135 927	18 353	22 258	23 886	26 472	13 403	16 399	7 452	7 701	(D)	
Dollar value of business done .....	57 474 037	11 293 429	7 780 632	7 622 585	9 944 122	6 784 101	8 432 405	2 523 262	3 093 500	(D)	
Value of construction work <sup>1</sup> .....	48 959 809	9 728 924	6 656 603	6 494 608	8 407 060	5 840 612	7 192 271	2 054 410	2 585 320	(D)	
Net value of construction work† .....	26 837 792	5 514 579	3 891 577	3 637 595	4 371 766	3 028 001	3 739 811	1 068 553	1 585 909	(D)	
Value added†† .....	15 173 454	2 473 369	1 967 605	1 793 580	2 495 356	1 972 849	2 559 883	665 177	1 245 634	(D)	
Cost of materials, components, supplies, and fuels .....	13 152 260	3 184 121	2 042 946	2 009 131	2 090 513	1 204 627	1 520 508	1 100 412	(D)	(D)	
Cost of construction work subcontracted to others .....	22 122 017	4 214 345	2 765 025	2 857 013	4 035 293	2 812 611	3 452 460	985 857	999 411	(D)	
Rental cost for machinery, equipment, and buildings .....	221 562	30 617	29 500	31 526	37 890	28 575	35 182	14 485	13 786	(D)	
Capital expenditures, other than land .....	529 751	75 829	80 933	69 539	93 624	59 370	115 813	23 525	11 116	(D)	
End-of-year gross book value of depreciable assets .....	4 683 534	1 048 538	730 234	545 880	733 561	406 158	733 210	485 951	(D)	(D)	
<b>1982</b>											
All employees** .....	107 635	18 067	17 527	17 194	21 720	11 293	11 678	10 155	(D)	(D)	
Total construction receipts <sup>1</sup> .....	15 607 430	2 209 530	2 036 346	2 209 770	3 577 172	2 306 869	1 925 975	1 341 767	(D)	(D)	
Value added†† .....	5 492 462	576 895	647 533	700 619	1 127 895	988 444	843 023	608 051	(D)	(D)	
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>											
All employees** .....	1	2	3	3	2	(W)	(W)	(W)	(W)	(D)	
Net value of construction work† .....	1	3	4	3	1	(W)	(W)	(W)	(W)	(D)	
Capital expenditures, other than land .....	3	8	13	7	4	(W)	(W)	(W)	(W)	(D)	

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
1987											
Number of establishments -----	20 766	(S)	(S)	(S)	2 628	3 216	4 102	5 244	2 293	983	893
All employees** -----	168 940	(S)	(S)	(S)	5 448	9 259	14 549	29 601	22 977	18 568	66 584
Payroll, all employees -----	4 385 006	(S)	(S)	(S)	71 634	151 507	286 931	708 270	607 680	541 458	1 998 858
Construction worker hours (thousands) -----	135 927	(S)	(S)	(S)	3 961	7 776	11 762	27 541	19 937	15 887	48 103
Dollar value of business done -----	57 474 037	(S)	(S)	(S)	444 197	1 165 334	2 938 996	8 394 135	7 836 565	6 605 295	30 026 040
Value of construction work <sup>1</sup> -----	48 959 809	(S)	(S)	(S)	374 990	995 536	2 512 856	7 169 486	6 691 793	5 652 483	25 508 785
Net value of construction work† -----	26 837 792	(S)	(S)	(S)	249 065	624 261	1 475 737	4 222 250	3 899 027	3 117 463	13 213 900
Value added†† -----	15 173 454	(S)	(S)	(S)	109 390	262 635	637 722	1 850 064	2 004 588	1 621 767	8 670 449
Cost of materials, components, supplies, and fuels -----	13 152 260	(S)	(S)	(S)	149 509	380 614	885 987	2 532 342	2 032 638	1 614 339	5 536 661
Cost of construction work subcontracted to others -----	22 122 017	(S)	(S)	(S)	125 924	371 275	1 037 118	2 947 235	2 792 766	2 535 019	12 294 884
Rental cost for machinery, equipment, and buildings -----	221 562	(S)	(S)	(S)	2 570	5 597	12 367	29 544	30 069	24 535	116 440
Capital expenditures, other than land -----	529 751	(S)	(S)	(S)	4 544	13 912	28 287	83 296	86 130	49 213	262 742
End-of-year gross book value of depreciable assets -----	4 683 534	(S)	(S)	(S)	83 664	196 401	347 939	808 212	790 375	446 351	1 992 598
1982											
All employees** -----	107 635	998	1 237	3 247	7 638	11 239	14 428	17 404	11 793	9 338	30 311
Total construction receipts <sup>1</sup> -----	15 607 430	10 440	27 996	109 970	420 611	787 480	1 420 460	2 209 627	1 699 370	1 754 603	7 166 872
Value added†† -----	5 492 462	*2 429	8 569	31 702	120 168	238 559	404 379	648 783	578 828	534 612	2 924 430
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees** -----	1	(S)	(S)	(S)	6	5	4	3	3	2	(W)
Net value of construction work† -----	1	(S)	(S)	(S)	5	5	4	3	4	4	1
Capital expenditures, other than land -----	3	(S)	(S)	(S)	16	13	10	9	11	7	1

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup> .....	48 959 809	46 926 013	861 659	230 647	1	1	3	3
<b>Building construction</b> .....	47 858 449	48 774 224	657 241	226 965	1	1	3	7
Single-family houses .....	42 401 837	41 880 448	344 489	176 900	1	1	5	8
Single-family houses, detached .....	33 474 846	33 035 640	296 088	143 117	1	1	5	10
Single-family houses, attached .....	8 926 990	8 844 807	48 400	33 783	2	2	12	14
Apartment buildings with two or more apartments .....	3 174 608	3 047 373	106 374	20 860	4	4	5	14
Other residential buildings, including hotels and motels .....	152 609	110 338	38 020	4 251	4	5	7	26
Office buildings .....	870 128	806 043	59 487	4 597	4	4	5	17
Other commercial buildings such as stores, restaurants, and automobile service stations .....	545 587	479 971	49 700	15 915	3	4	7	13
Industrial buildings and warehouses .....	338 651	299 428	37 073	2 149	9	10	9	12
Industrial buildings .....	180 676	153 885	26 274	516	10	12	8	22
Warehouses .....	157 975	145 543	10 798	1 633	16	17	25	14
Other nonresidential buildings .....	175 029	150 618	22 097	*2 313	3	2	32	60
<b>Nonbuilding construction</b> .....	159 869	151 769	4 417	3 662	3	3	18	25
<b>Construction work, n.s.k.</b> .....	1 141 490	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup> .....	15 807 430	14 973 253	439 018	195 159	1	1	2	3
<b>Building construction</b> .....	15 550 764	14 926 188	438 150	166 445	1	1	2	3
Single-family houses .....	13 488 163	13 100 799	257 696	129 667	1	1	2	2
Single-family houses, detached .....	10 129 865	9 827 544	204 872	97 448	1	1	3	3
Single-family houses, attached .....	3 358 298	3 273 254	52 824	32 219	1	1	5	4
Apartment buildings with two or more apartments .....	1 167 720	1 038 661	93 571	35 488	1	2	2	13
Other residential buildings, including hotels and motels .....	135 980	129 422	4 329	2 228	3	3	18	32
Office buildings .....	305 477	269 855	28 392	7 230	2	2	8	6
Other commercial buildings such as stores, restaurants, and automobile service stations .....	164 072	141 982	17 304	4 785	4	4	10	36
Industrial buildings and warehouses .....	213 487	197 378	11 752	4 357	4	4	17	32
Industrial buildings .....	163 470	153 578	7 843	2 049	5	5	22	22
Warehouses .....	50 016	43 799	3 909	*2 307	4	4	21	61
Other nonresidential buildings .....	75 865	48 071	25 106	2 690	6	6	27	18
<b>Nonbuilding construction</b> .....	34 835	27 882	564	6 388	9	8	6	22
<b>Construction work, n.s.k.</b> .....	21 630	19 203	*302	2 325	14	16	47	8

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
	A	B	C	D	E	F	G	H			
<b>All establishments -----</b>	<b>20 786</b>	<b>168 940</b>	<b>4 385 006</b>	<b>48 959 809</b>	<b>41 684 882</b>	<b>26 837 792</b>	<b>15 173 454</b>	<b>22 122 017</b>	<b>1</b>	<b>1</b>	<b>1</b>
Establishments not specializing by type -----	743	10 029	253 379	2 621 453	(NA)	1 331 724	780 067	1 289 728	1	1	1
Establishments specializing 51 percent or more -----	20 023	158 911	4 131 626	46 338 356	41 684 882	25 506 068	14 393 387	20 832 288	3	3	3
<b>SINGLE-FAMILY HOUSES, DETACHED</b>											
<b>All establishments specializing in type -----</b>	<b>15 690</b>	<b>110 995</b>	<b>2 959 812</b>	<b>34 413 568</b>	<b>31 337 823</b>	<b>19 204 333</b>	<b>10 562 275</b>	<b>15 209 234</b>	<b>1</b>	<b>1</b>	<b>1</b>
Establishments with —											
100 percent specialization -----	12 902	70 451	1 821 883	20 573 171	20 573 171	11 794 079	6 077 419	8 779 092	1	1	2
90 to 99 percent specialization -----	940	11 045	308 406	3 651 697	3 438 023	2 050 034	1 235 416	1 601 662	3	2	2
80 to 89 percent specialization -----	768	9 349	255 416	3 081 574	2 597 916	1 743 272	1 082 511	1 338 301	3	2	3
70 to 79 percent specialization -----	525	8 520	248 264	3 022 700	2 227 937	1 665 003	967 338	1 357 696	3	2	2
60 to 69 percent specialization -----	428	8 742	241 484	3 082 217	1 952 524	1 437 127	933 972	1 645 089	3	2	2
51 to 59 percent specialization -----	125	2 885	84 357	1 002 207	548 250	514 815	265 616	487 392	4	1	1
<b>SINGLE-FAMILY HOUSES, ATTACHED</b>											
<b>All establishments specializing in type -----</b>	<b>2 295</b>	<b>23 430</b>	<b>816 299</b>	<b>6 830 070</b>	<b>5 714 460</b>	<b>3 657 499</b>	<b>2 106 541</b>	<b>3 172 571</b>	<b>2</b>	<b>3</b>	<b>3</b>
Establishments with —											
100 percent specialization -----	1 468	10 259	270 148	2 987 781	2 987 781	1 581 866	849 200	1 405 915	4	5	6
90 to 99 percent specialization -----	247	3 019	66 800	678 111	634 358	421 385	270 668	256 726	5	7	7
80 to 89 percent specialization -----	111	1 645	43 577	392 588	330 274	205 488	102 016	187 099	6	5	6
70 to 79 percent specialization -----	199	3 294	89 955	932 383	691 123	507 102	309 721	425 281	6	5	6
60 to 69 percent specialization -----	208	3 461	87 119	987 713	613 322	502 694	262 821	485 019	6	4	5
51 to 59 percent specialization -----	60	1 751	58 699	851 492	457 600	438 962	312 113	412 529	4	4	4
<b>APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS</b>											
<b>All establishments specializing in type -----</b>	<b>692</b>	<b>12 285</b>	<b>274 615</b>	<b>2 817 142</b>	<b>2 479 570</b>	<b>1 401 610</b>	<b>907 284</b>	<b>1 415 532</b>	<b>2</b>	<b>4</b>	<b>4</b>
Establishments with —											
100 percent specialization -----	478	6 589	152 427	1 634 843	1 634 843	839 392	585 128	795 451	3	7	7
90 to 99 percent specialization -----	21	1 338	30 661	158 939	144 699	82 799	57 045	76 139	3	3	3
80 to 89 percent specialization -----	48	916	19 667	175 328	142 079	84 461	46 435	90 866	16	17	15
70 to 79 percent specialization -----	73	1 666	31 848	274 829	203 439	127 248	51 883	147 580	7	10	7
60 to 69 percent specialization -----	62	1 689	38 105	543 030	337 596	254 860	161 153	288 170	4	5	6
51 to 59 percent specialization -----	*9	84	1 905	30 173	16 911	12 848	5 638	17 325	29	4	1
<b>OFFICE BUILDINGS</b>											
<b>All establishments specializing in type -----</b>	<b>125</b>	<b>3 219</b>	<b>75 502</b>	<b>571 595</b>	<b>515 691</b>	<b>306 559</b>	<b>228 208</b>	<b>265 035</b>	<b>3</b>	<b>6</b>	<b>8</b>
Establishments with —											
100 percent specialization -----	66	2 179	48 032	337 446	337 446	201 213	153 082	136 232	3	4	5
90 to 99 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization -----	19	464	15 371	135 842	110 693	64 206	49 262	71 636	12	21	29
70 to 79 percent specialization -----	31	383	8 135	59 279	43 898	28 218	17 567	31 060	14	7	7
60 to 69 percent specialization -----	6	148	2 656	17 713	11 091	9 206	6 294	8 506	18	34	34
51 to 59 percent specialization -----	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS</b>											
<b>All establishments specializing in type -----</b>	<b>104</b>	<b>1 992</b>	<b>44 989</b>	<b>303 218</b>	<b>263 996</b>	<b>144 107</b>	<b>78 793</b>	<b>159 111</b>	<b>5</b>	<b>6</b>	<b>8</b>
Establishments with —											
100 percent specialization -----	58	976	23 058	156 162	156 162	82 965	45 434	73 197	4	9	11
90 to 99 percent specialization -----	*11	114	3 088	39 428	36 904	(D)	5 521	(D)	25	3	(D)
80 to 89 percent specialization -----	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
70 to 79 percent specialization -----	4	98	2 622	20 042	14 740	(D)	4 109	(D)	28	13	(D)
60 to 69 percent specialization -----	19	736	15 130	77 983	50 190	39 378	19 336	38 605	11	15	13
51 to 59 percent specialization -----	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

**Table 9. Quarterly Construction Worker Hours and Employment for Establishments With**

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
<b>United States</b> .....	<b>20 766</b>	<b>79 502</b>	<b>135 927</b>	<b>76 105</b>	<b>31 584</b>	<b>81 622</b>	<b>34 821</b>
Alabama .....	327	(D)	1 521	964	383	(D)	385
Alaska .....	*22	(S)	(S)	(S)	(S)	(S)	(S)
Arizona .....	355	2 510	3 691	2 573	946	2 683	961
Arkansas .....	136	361	(D)	(D)	(D)	387	(D)
California .....	2 051	10 499	17 066	10 224	4 050	10 774	4 327
Colorado .....	410	1 203	2 090	1 241	475	1 223	482
Connecticut .....	635	2 241	3 936	2 135	882	2 554	1 144
Delaware .....	102	448	719	414	154	443	176
District of Columbia .....	33	590	1 035	555	242	625	261
Florida .....	1 966	7 225	12 853	7 122	3 154	7 077	3 123
Georgia .....	1 056	2 760	4 381	2 797	1 052	2 954	1 173
Hawaii .....	*11	(D)	(D)	(D)	(D)	(D)	(D)
Idaho .....	30	*78	(S)	*56	(S)	*108	(S)
Illinois .....	544	1 877	3 105	1 696	684	1 844	777
Indiana .....	338	1 305	(D)	1 215	497	1 412	(D)
Iowa .....	76	327	563	270	111	322	140
Kansas .....	198	(D)	623	367	114	431	177
Kentucky .....	274	750	1 250	792	303	797	323
Louisiana .....	146	254	354	236	77	275	101
Maine .....	138	419	693	404	182	421	177
Maryland .....	614	4 604	8 434	4 182	1 870	4 574	2 078
Massachusetts .....	956	3 171	6 016	2 876	1 365	3 221	1 580
Michigan .....	321	802	1 591	715	346	793	401
Minnesota .....	270	1 001	1 687	905	384	1 075	449
Mississippi .....	151	389	818	375	172	400	225
Missouri .....	487	2 231	3 443	2 143	826	2 330	888
Montana .....	20	60	163	60	42	63	41
Nebraska .....	83	(D)	120	(D)	(D)	(D)	28
Nevada .....	95	600	976	636	253	616	235
New Hampshire .....	372	1 683	2 965	1 517	675	1 777	794
New Jersey .....	949	3 692	6 139	3 500	1 425	3 651	1 522
New Mexico .....	145	514	833	505	198	543	218
New York .....	1 180	3 847	6 788	3 257	1 386	3 982	1 858
North Carolina .....	933	3 039	4 934	2 933	1 150	(D)	1 297
North Dakota .....	53	(D)	(D)	134	33	149	49
Ohio .....	626	2 168	4 210	2 038	952	2 186	1 057
Oklahoma .....	124	*403	*574	(D)	*162	(D)	*148
Oregon .....	156	143	234	126	51	171	63
Pennsylvania .....	617	3 338	6 143	3 119	1 384	3 339	1 544
Rhode Island .....	166	470	(D)	482	(D)	497	(D)
South Carolina .....	249	854	1 128	813	288	867	294
South Dakota .....	35	*117	16	*95	*3	*119	3
Tennessee .....	454	1 564	2 770	1 565	618	1 691	693
Texas .....	971	2 898	5 086	3 038	1 290	2 958	1 309
Utah .....	115	(D)	443	202	92	(D)	119
Vermont .....	81	(D)	313	(D)	(D)	195	84
Virginia .....	1 042	5 110	8 878	4 972	2 068	5 196	2 285
Washington .....	460	1 268	2 185	1 215	528	1 243	556
West Virginia .....	63	147	299	123	*63	159	78
Wisconsin .....	96	459	638	374	130	407	158
Wyoming .....	*13	(S)	(S)	(S)	(S)	(S)	(S)

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.



# Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
84 477	36 638	75 806	32 882	1	1	1	1	1	2	1	1	1	1	U.S.
(D)	404	866	348	(D)	13	13	14	(D)	13	(D)	13	13	13	AL
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	AK
2 603	955	2 182	827	5	6	6	5	5	5	6	8	3	6	AZ
357	(D)	(D)	124	26	(D)	(D)	(D)	23	(D)	26	(D)	(D)	29	AR
10 852	4 454	10 145	4 233	2	3	2	3	2	3	3	3	3	3	CA
1 241	637	1 109	495	7	10	7	10	7	10	8	13	8	11	CO
2 320	1 016	1 955	893	7	9	7	9	10	13	7	8	7	9	CT
475	200	460	187	14	18	13	19	14	19	15	19	14	18	DE
649	295	532	236	10	10	9	11	11	12	9	10	8	9	DC
7 688	3 362	7 013	3 212	3	4	4	5	3	5	4	5	4	5	FL
2 844	1 170	2 445	984	4	7	5	7	5	7	5	7	5	7	GA
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	HI
*75	(S)	*73	(S)	63	(S)	56	(S)	70	(S)	61	(S)	63	(S)	ID
2 030	838	1 936	804	7	8	7	8	7	8	8	8	7	8	IL
1 419	(D)	1 173	(D)	10	(D)	11	13	11	(D)	10	(D)	10	(D)	IN
358	157	360	154	18	27	19	32	18	27	19	26	19	26	IA
393	(D)	(D)	(D)	(D)	21	14	20	15	21	16	(D)	(D)	(D)	KS
755	331	656	292	11	14	12	15	11	14	11	15	12	15	KY
292	99	213	76	14	23	13	20	14	21	17	30	16	23	LA
439	186	413	146	17	23	17	25	18	25	17	24	24	25	ME
5 002	2 308	4 658	2 177	3	3	3	3	3	3	3	3	3	4	MD
3 599	1 700	2 989	1 370	6	7	6	8	6	8	6	8	6	7	MA
854	434	846	407	10	12	9	12	10	13	10	13	12	13	MI
1 086	476	939	377	8	10	8	10	9	11	8	11	9	11	MN
454	250	329	171	20	27	19	22	19	28	24	34	20	29	MS
2 311	900	2 139	827	7	8	7	9	7	8	7	9	7	8	MO
62	42	55	37	32	35	30	33	30	32	37	40	34	36	MT
(D)	34	(D)	(D)	(D)	31	(D)	(D)	(D)	31	(D)	32	(D)	(D)	NE
606	253	543	233	5	8	8	13	7	12	3	5	3	7	NV
1 838	808	1 601	686	9	11	9	11	9	11	9	11	10	13	NH
4 051	1 681	3 567	1 509	4	5	4	5	4	5	4	5	4	5	NJ
522	216	485	200	17	18	23	21	18	21	17	20	19	21	NM
4 354	1 964	3 794	1 579	6	8	6	8	7	10	6	9	10	8	NY
3 113	1 305	(D)	1 181	6	8	6	8	(D)	8	6	8	(D)	8	NC
(D)	(D)	(D)	62	(D)	(D)	29	36	28	31	(D)	(D)	(D)	31	ND
2 303	1 152	2 146	1 048	7	9	7	9	7	9	7	9	8	9	OH
*390	*137	*370	*125	60	42	(D)	42	(D)	43	63	43	66	43	OK
143	62	133	56	21	30	24	37	23	29	21	31	20	28	OR
3 646	1 708	3 247	1 505	6	7	7	8	6	7	6	8	6	8	PA
486	(D)	415	(D)	20	(D)	21	(D)	21	(D)	19	(D)	19	(D)	RI
896	283	841	262	12	17	11	17	12	18	13	18	14	18	SC
*118	*6	*137	*3	42	37	43	49	42	20	41	43	42	44	SD
1 611	778	1 388	679	11	14	12	14	12	15	10	14	12	16	TN
2 939	1 285	2 657	1 200	4	6	4	6	4	6	5	6	4	6	TX
(D)	135	(D)	96	(D)	26	20	26	(D)	27	(D)	28	(D)	24	UT
196	81	(D)	(D)	(D)	29	(D)	(D)	21	32	22	30	(D)	(D)	VT
5 463	2 327	4 807	2 197	4	5	4	5	4	5	4	5	4	5	VA
1 314	571	1 301	529	7	9	7	9	7	9	7	10	10	11	WA
(D)	(D)	(D)	(D)	27	33	32	42	25	31	(D)	(D)	(D)	(D)	WV
570	177	485	172	21	32	24	37	22	33	21	31	22	32	WI
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	WY

**Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State¹	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State¹	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	48 959 809	20 337	46 170 315	971	2 789 494	15 607 430	213.7	1	1	2
Alabama -----	324 956	317	(D)	2	(D)	121 921	166.5	12	(D)	(D)
Alaska -----	*7 552	*22	*7 552	-	-	73 868	-89.8	61	61	-
Arizona -----	1 663 057	351	1 628 565	*13	34 492	645 118	157.8	4	4	20
Arkansas -----	93 773	135	93 773	-	-	59 018	58.9	12	12	-
California -----	9 625 335	1 978	9 403 863	58	221 471	2 474 104	289.0	1	1	4
Colorado -----	891 856	399	850 732	8	41 124	837 146	6.5	4	4	11
Connecticut -----	889 335	624	838 581	62	50 754	118 666	649.4	6	6	28
Delaware -----	169 735	98	129 286	8	40 449	43 339	291.6	10	10	27
District of Columbia -----	227 032	28	126 765	24	100 266	19 304	1 076.1	7	11	5
Florida -----	5 228 884	1 941	5 060 020	23	168 863	2 004 263	160.9	2	3	(W)
Georgia -----	1 629 560	1 028	1 529 471	36	100 088	370 267	340.1	5	5	2
Hawaii -----	31 569	*11	(D)	*7	(D)	57 029	-44.6	16	(D)	(D)
Idaho -----	23 202	30	(D)	1	(D)	18 349	26.4	37	(D)	(D)
Illinois -----	1 661 320	526	1 658 498	*7	*2 822	290 963	471.0	4	4	54
Indiana -----	612 775	337	(D)	3	(D)	137 808	344.7	12	(D)	(D)
Iowa -----	84 921	76	84 921	-	-	53 709	58.1	17	17	-
Kansas -----	230 327	198	207 347	*17	*22 979	93 620	146.0	15	16	41
Kentucky -----	310 058	269	(D)	*9	(D)	99 982	210.1	10	(D)	(D)
Louisiana -----	124 568	141	(D)	*17	(D)	158 271	-21.3	16	(D)	(D)
Maine -----	142 179	138	139 685	*27	*2 494	46 966	202.7	16	16	63
Maryland -----	2 279 502	603	1 990 130	51	289 372	527 385	332.2	3	3	2
Massachusetts -----	1 289 077	925	(D)	79	(D)	138 191	832.8	5	(D)	(D)
Michigan -----	733 868	315	(D)	*25	(D)	102 917	613.1	9	(D)	(D)
Minnesota -----	743 410	269	705 027	21	*38 382	246 393	201.7	8	8	70
Mississippi -----	171 006	149	(D)	1	(D)	37 433	356.8	20	(D)	(D)
Missouri -----	797 195	487	779 270	5	17 925	161 552	393.5	5	5	13
Montana -----	27 506	19	26 096	4	1 410	15 331	79.4	30	32	29
Nebraska -----	(D)	78	(D)	-	-	61 560	(D)	(D)	(D)	-
Nevada -----	511 990	95	341 929	19	170 061	142 772	258.6	6	4	15
New Hampshire -----	588 912	371	530 890	86	58 021	46 953	1 154.3	10	11	17
New Jersey -----	2 613 375	912	2 499 912	14	113 463	366 409	613.2	4	4	3
New Mexico -----	166 783	144	150 715	6	16 068	90 974	83.3	12	13	13
New York -----	2 126 418	1 158	2 067 524	32	58 893	443 096	379.9	5	5	20
North Carolina -----	1 638 574	922	1 325 887	28	312 686	302 657	441.4	5	6	6
North Dakota -----	46 954	53	(D)	2	(D)	37 646	24.7	33	(D)	(D)
Ohio -----	1 403 323	621	1 288 617	57	114 706	360 644	289.1	5	6	1
Oklahoma -----	117 303	118	(D)	3	(D)	188 516	-37.8	18	(D)	(D)
Oregon -----	129 235	155	123 402	*19	5 832	105 187	22.9	18	19	9
Pennsylvania -----	1 273 599	611	1 236 469	31	37 130	268 883	373.7	5	5	34
Rhode Island -----	153 246	164	(D)	*10	(D)	28 176	443.9	16	(D)	(D)
South Carolina -----	330 772	244	295 404	24	35 368	135 870	143.4	8	9	6
South Dakota -----	20 239	35	20 239	-	-	6 082	232.8	21	21	-
Tennessee -----	652 477	449	605 786	38	46 690	160 687	306.1	7	7	7
Texas -----	3 009 200	954	2 917 492	*10	91 707	2 690 819	11.8	3	3	3
Utah -----	148 892	102	(D)	2	(D)	74 688	99.4	17	(D)	(D)
Vermont -----	134 041	81	(D)	22	(D)	19 429	589.9	34	(D)	(D)
Virginia -----	2 947 692	1 030	2 549 025	42	398 666	657 242	348.5	3	3	1
Washington -----	600 363	437	600 363	-	-	322 314	86.3	7	7	-
West Virginia -----	41 053	58	(D)	2	(D)	24 090	70.4	26	(D)	(D)
Wisconsin -----	(D)	96	(D)	2	(D)	63 257	(D)	(D)	(D)	(D)
Wyoming -----	*13 468	*13	(D)	2	(D)	56 542	-76.2	59	(D)	(D)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
<b>All kinds of business.....</b>	<b>57 474 037</b>	<b>18 084 627</b>	<b>1</b>	<b>1</b>
General building contractor .....	1 769 064	553 220	3	3
Operative builder .....	45 122 900	14 954 729	1	1
Subdivider and developer .....	867 269	143 934	3	3
Other construction activities .....	394 638	(S)	5	(S)
Real estate agents and managers .....	235 583	106 386	3	3
Sale of land .....	7 266 172	578 225	1	1
Investment builder .....	391 818	158 021	4	3
Other activities .....	913 030	(S)	1	(S)
Kind of business activity, n.s.k. ....	513 563	(S)	7	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics			Relative standard error of estimate (percent) for 1987
	1987	1982	
<b>AVERAGE PER ESTABLISHMENT</b>			
Number of employees**-----	8.1	7.7	1
Number of construction workers-----	3.8	3.8	1
Number of all other employees-----	4.3	(NA)	1
Payroll, all employees----- \$1,000-----	211.2	133.3	1
Payroll, construction workers----- do-----	71.2	50.5	1
Payroll, other employees----- do-----	140.0	82.8	1
Dollar value of business done----- do-----	2 767.7	1 286.9	1
Value of construction work <sup>1</sup> ----- do-----	2 357.7	1 110.6	1
Cost of materials, components, supplies, and fuels----- do-----	633.4	268.7	1
Construction work subcontracted to others----- do-----	1 065.3	481.5	1
Rental cost for machinery, equipment, and buildings----- do-----	10.7	6.8	2
Capital expenditures, other than land----- do-----	25.5	18.0	3
Gross book value of depreciable assets----- do-----	225.5	228.0	2
<b>AVERAGE PER EMPLOYEE</b>			
Payroll, all employees----- do-----	26.0	17.4	(W)
Dollar value of business done----- do-----	340.2	168.0	1
Value added††----- do-----	89.8	51.0	1
<b>AVERAGE PER CONSTRUCTION WORKER</b>			
Payroll, construction workers----- do-----	18.6	13.3	1
Value of construction work <sup>1</sup> ----- do-----	615.8	293.3	1
Construction worker hours-----	1 709.7	1 571.1	1
<b>AVERAGE PER OTHER EMPLOYEE</b>			
Payroll, other employees----- \$1,000-----	32.5	(NA)	1
<b>AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK<sup>1</sup></b>			
Payroll, all employees-----	.090	.120	1
Cost of materials, components, supplies, and fuels-----	.269	.242	1
Cost of construction work subcontracted to others-----	.452	.434	(W)
Rental cost for machinery, equipment, and buildings-----	.005	.006	

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



**Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees* per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
<b>United States</b> -----	<b>8.1</b>	<b>26.0</b>	<b>1 709.7</b>	<b>615.8</b>	<b>.090</b>	<b>.269</b>	<b>.452</b>	<b>.005</b>
Alabama -----	(D)	(D)	(D)	(D)	.108	.432	.330	.004
Alaska -----	*1.3	*24.6	(S)	(S)	*.095	(S)	*.253	(S)
Arizona -----	17.2	26.3	1 470.5	757.3	.085	.173	.566	.007
Arkansas -----	(D)	(D)	(D)	275.9	(D)	.352	.406	.007
California -----	11.4	30.6	1 625.5	924.8	.074	.178	.522	.004
Colorado -----	8.3	23.4	1 737.3	720.0	.092	(D)	.364	.005
Connecticut -----	6.6	30.3	1 756.4	400.5	.140	.357	.374	.005
Delaware -----	7.3	21.9	1 604.9	321.1	.114	.344	.514	.003
District of Columbia -----	30.2	27.6	1 754.2	324.9	.144	.217	.511	.011
Florida -----	9.6	23.9	1 779.0	708.8	.088	.302	.460	.004
Georgia -----	5.4	24.6	(S)	(D)	(D)	(D)	(D)	(D)
Hawaii -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Idaho -----	*4.4	*18.7	(S)	*306.9	.103	.382	*.408	*.005
Illinois -----	8.4	(D)	1 654.2	907.1	(D)	(D)	.517	.003
Indiana -----	6.9	21.2	(D)	448.3	.084	.368	.374	.002
Iowa -----	6.8	16.1	1 721.7	(D)	(D)	(D)	(D)	(D)
Kansas -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kentucky -----	5.8	21.6	1 666.7	470.7	.097	.349	.451	.004
Louisiana -----	4.2	17.2	(S)	456.1	.091	.354	.461	.003
Maine -----	5.5	(D)	1 653.9	347.6	(D)	.282	.400	.004
Maryland -----	15.4	28.2	1 831.9	635.8	.091	(D)	.443	.006
Massachusetts -----	5.8	27.0	1 897.2	402.1	.117	.322	.415	.006
Michigan -----	7.0	27.9	1 983.8	913.8	.085	(D)	.517	.003
Minnesota -----	7.5	27.2	1 685.3	711.3	.077	.273	.435	.003
Mississippi -----	5.2	18.6	(S)	447.7	.084	.352	.340	.005
Missouri -----	7.3	24.9	1 543.3	354.3	.112	.374	(D)	.003
Montana -----	5.5	21.3	(S)	460.9	.086	.260	.555	*.003
Nebraska -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nevada -----	13.7	26.3	1 626.7	585.7	.097	.221	.496	.007
New Hampshire -----	7.6	22.7	1 761.7	321.2	.119	.298	.374	.006
New Jersey -----	8.8	30.8	1 662.8	696.1	.099	(D)	.356	.005
New Mexico -----	6.4	16.3	1 620.6	296.3	.099	.339	.384	.005
New York -----	6.4	27.6	1 764.5	556.5	.097	.290	.408	.004
North Carolina -----	6.2	(D)	1 623.6	441.6	(D)	.358	.375	.004
North Dakota -----	(D)	(D)	(D)	(D)	(D)	.258	*.517	(D)
Ohio -----	7.2	24.8	(S)	631.2	.082	(D)	.471	.003
Oklahoma -----	*5.2	*16.8	*1 424.3	*268.7	.100	.403	.416	.007
Oregon -----	2.5	23.7	1 636.4	881.3	.075	.269	.446	*.003
Pennsylvania -----	9.5	22.4	1 840.3	(D)	(D)	(D)	(D)	(D)
Rhode Island -----	5.2	22.2	(D)	326.5	.124	.325	.454	.003
South Carolina -----	7.7	(D)	(S)	385.0	(D)	.341	.534	.005
South Dakota -----	6.0	14.8	(S)	*187.1	.142	.444	.447	(S)
Tennessee -----	6.6	22.0	1 771.1	387.8	.109	.392	.394	.005
Texas -----	8.8	27.6	1 755.0	1 042.2	.078	.291	.415	.005
Utah -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Vermont -----	4.1	25.7	(D)	(D)	(D)	(D)	(D)	(D)
Virginia -----	9.8	26.7	1 737.4	543.3	.098	(D)	.420	.005
Washington -----	5.4	21.2	1 723.2	473.5	.088	.274	.472	.006
West Virginia -----	4.8	15.2	(S)	261.6	.120	.368	.154	.007
Wisconsin -----	7.1	17.9	(S)	(D)	(D)	(D)	(D)	(D)
Wyoming -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)





# APPENDIX A.

## Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.



Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It



excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

#### Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.



- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.



- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.





# APPENDIX B.

## Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
<b>15</b>	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
<b>152</b>	<b>General Building Contractors—Residential Buildings</b>	<b>173</b>	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	<b>174</b>	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
<b>153</b>	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
<b>154</b>	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	<b>175</b>	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
<b>16</b>	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
<b>161</b>	<b>Highway and Street Construction, Except Elevated Highways</b>	<b>176</b>	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
<b>162</b>	<b>Heavy Construction, Except Highway and Street Construction</b>	<b>177</b>	<b>Concrete Work Special Trade Contractors</b>
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>178</b>	<b>Water Well Drilling Special Trade Contractors</b>
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	<b>179</b>	<b>Miscellaneous Special Trade Contractors</b>
<b>171</b>	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
<b>172</b>	<b>Painting and Paper Hanging Special Trade Contractors</b>	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		<b>6552</b>	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>





# **APPENDIX C.**

## **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



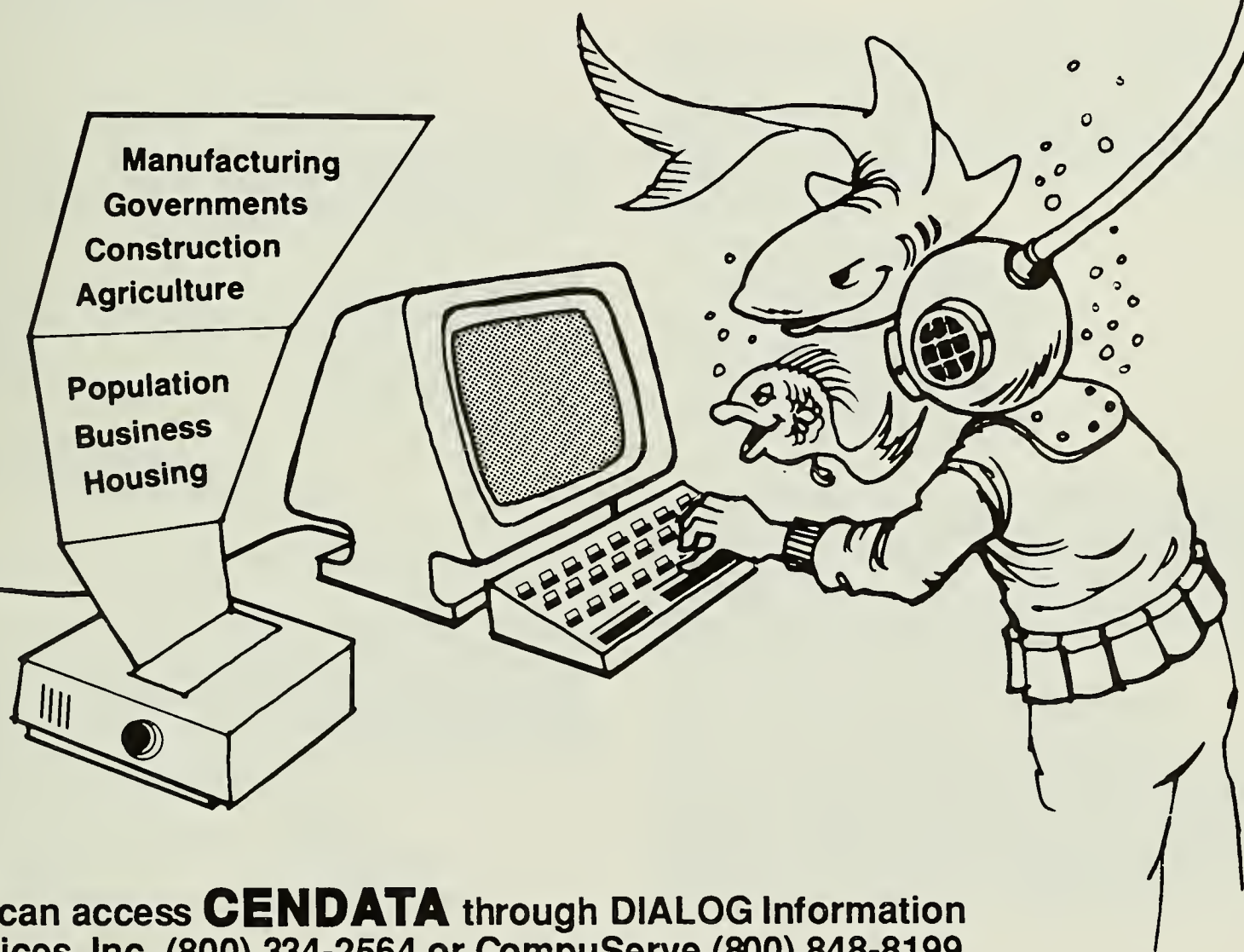


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# PUBLICATION PROGRAM

## 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

## Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

## Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

## OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

## HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.

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